

IN THE CLAIMS:

Please AMEND claim 1-8 and 13, as follows:

1. (Currently Amended) A sheet material information detecting device for detecting information on a sheet material, comprising:

a sheet material transport means unit for transporting a sheet material along a sheet material transport path;

an impact applying unit force applying means for applying a physical impact an external force to the sheet material in the sheet material transport path;

a external force detecting unit means for detecting information corresponding to a force existing after attenuation of the external force impact applied to the sheet material, the detecting unit including a piezoelectric member; and

a positioning means unit for positioning the sheet material,
wherein, when the external force physical impact is to be applied, the positioning unit means performs positioning of the sheet material such that a distance between the sheet material and the external force detecting means unit opposed to the sheet material is a predetermined value not less than 0.

2. (Currently Amended) A sheet material information detecting device according to Claim 1, further comprising sheet material displacing unit means comprising a sheet material displacing member protruding into the sheet material transport path and adapted to displace the sheet material upon contact with the sheet material.

3. (Currently Amended) A sheet material information detecting device according to Claim 1, wherein the ~~external force~~ impact applying unit ~~means~~ comprises an ~~external force~~ impact applying member for applying an ~~external force~~ impact to the sheet material upon contact with the sheet material, the sheet material information detecting device further comprising an ~~external force~~ impact receiving member arranged at a position opposed to the ~~external force~~ impact applying member and adapted to receive the ~~external force~~ impact from the ~~external force~~ impact applying member.

4. (Currently Amended) A sheet material information detecting device according to Claim 2, wherein the ~~force~~ impact applying means unit comprises an ~~external force~~ impact applying member for applying an ~~external~~ impact force to the sheet material upon contact with the sheet material, and

wherein the sheet material displacing member is arranged at a position opposed to the ~~external force~~ impact applying member and is an ~~external force~~ impact receiving member adapted to receive the ~~external force~~ impact from the ~~external force~~ impact applying member.

5. (Currently Amended) A sheet material information detecting device according to Claim 3, wherein the ~~external force~~ detecting unit ~~means~~ supports the external force receiving member and detects an external force received by the external force receiving member.

6. (Currently Amended) A sheet material information detecting device according to Claim 3, wherein the ~~external force~~ detecting means unit is mounted on a side of the

~~force impact~~ applying means unit and detects an external force impact through the ~~force impact~~ applying unit means.

7. (Currently Amended) A sheet material information detecting device according to Claim 4, wherein the sheet material displacing means unit determines at least one of a position of the sheet material with respect to the ~~external force~~ detecting unit means, a position of the sheet material with respect to the ~~external force impact~~ applying member, and a position of the sheet material with respect to the ~~external force impact~~ receiving member.

8. (Currently Amended) A sheet material information detecting device according to Claim 7, wherein the sheet material displacing member brings the sheet material into contact with the ~~external force impact~~ receiving member.

9. (Previously Presented) A sheet material information detecting device according to Claim 2, further comprising an auxiliary displacing member on a side opposed to the sheet material displacing member with interposition of the sheet material therebetween, wherein the auxiliary displacing member brings the sheet material into contact with the sheet material displacing member.

10. (Previously Presented) A sheet material information detecting device according to Claim 1, wherein the sheet material displacing member further comprises a sheet material sensor for detecting a state and position of the sheet material.

11. (Original) A sheet material processing apparatus comprising the sheet material information detecting device as claimed in Claim 1, and a sheet material processing portion for performing processing of the sheet material based on a detection result obtained by the sheet material information detecting device.

12. (Original) A signal output device comprising an external force applying portion for applying an external force to a sheet material and a signal output portion for outputting a signal upon application of the external force, wherein a displacing member for controlling a position of the sheet material is provided at a position opposed to the external force applying portion with interposition of the sheet material therebetween.

13. (Currently Amended) A method of obtaining information on a sheet material, comprising the steps of:

supplying a sheet material to a position between ~~a force~~ an impact applying means unit for applying ~~an external force~~ a physical impact to the sheet material and a detecting unit means for detecting information corresponding to a force existing after attenuation of the ~~external force~~ impact applied to the sheet material;

positioning the sheet material such that a distance between the sheet material and the detecting unit means opposed to the sheet material is a predetermined value not less than 0;

applying the ~~external force~~ impact to the positioned sheet material; and detecting information on the sheet material.

14. (Withdrawn) An image forming apparatus comprising:
sheet transport means for transporting a sheet material;
an information detecting device for detecting information on a sheet material;
and
image forming means for forming an image on the sheet material,
wherein the information detecting device comprises sheet material displacing
means for displacing the transported sheet material to a proper position, and means for applying
an external force to the displaced sheet material.